# Mixed-methods study of a novel recovery app as an intervention to alter substance use trajectories and minimise harms

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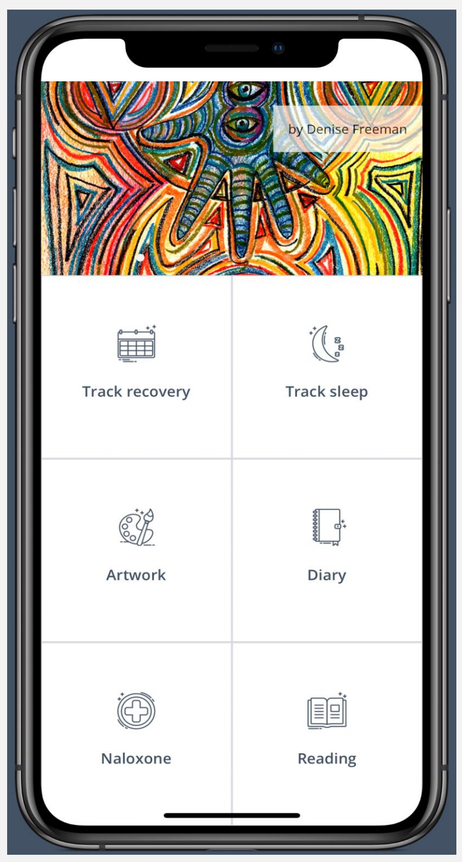
## Aims and background:

Working collaboratively with people using substances, people in treatment, and people in recovery, we recently completed research which resulted in the development of two validated Patient Reported Outcome Measures (PROMS): The Substance Use Recovery Evaluator (SURE) and The Substance Use Sleep Scale (SUSS). Subsequently, community members told us they would like to see the measures incorporated into a recovery app. We therefore developed the first version of 'SURE Recovery', an app which is now available to download and use. The app has six key features: recovery tracker (SURE), sleep tracker (SUSS), naloxone resources, diary, reading, and user-contributed artwork.

The aim of our study is to explore use of, and engagement with, SURE Recovery over a 10-month period. Based on mobile health app research, we hypothesise that people will be most likely to engage with the app during key transitions in their substance use. We also hypothesise that use of the app may 'nudge' people to reduce their substance use and the naloxone feature may increase engagement with take home naloxone and improve overdose management competency.




## Design:

Mixed-methods study

- Quantitative data will be collected via the SURE Recovery app over a 10-month period to test associations between use of the app and reported use of substances; reported use of services; naloxone carriage and use; and recovery (SURE) scores.
- Qualitative data will be generated via interviews with people who have used the app to better understand how the app is being used, with what effects, and how the app might be improved.

## Setting:

The research will be conducted in the community.

## Participants:

The SURE Recovery app is designed for people who are using substances, in recovery, or thinking about recovery.

People will be invited to participate in the research when they first use the app. They will be able to opt in or out of the research at any time using the settings feature of the app.

## Measurement:

- Quantitative measures will include basic demographic data and digital questionnaires on substance use, treatment, recovery, sleep and overdose. These will be embedded within the app.
- Qualitative data will be generated via 30-40 semi-structured interviews each lasting 45-60 minutes. Interviews will be transcribed and coded prior to thematic analyses.

## Findings and conclusions:

Quantitative and qualitative findings will be combined. If the study hypotheses are confirmed, we will use the findings to refine and optimize the app as an intervention to alter substance use trajectories and reduce substance-related harms.

To this end, we will conduct feedback workshops with a further 20 users of the app to refine the findings. We will then re-engage the app developer to make any necessary modifications.

Study findings will be disseminated via peer-reviewed papers, conference presentations, international networks and social media. A new grant application to test the ability of the optimized app to effect positive changes in substance use and substance-related harms will also be prepared.

Conflict of Interest:
Joanne Neale receives honoraria and some expenses from *Addiction* journal in her role as Commissioning Editor and Senior Qualitative Editor. In the last three years, she has also received honoraria and research grants from pharmaceutical companies: Camurus AB and Mundipharma International Ltd. John Marsden declares research funding to King's College London from Indivior for a multi-centre trial of extended release buprenorphine and personalised psychosocial intervention for opioid use disorder. Through his university, John Strang is working with pharmaceutical industry to identify new or improved treatments and his employer (King's College London) has received grants, travel costs and/or consultancy payments; this includes consideration and/or investigation of new naloxone formulations with Martindale, Indivior, Mundipharma (all of whom have naloxone products). His employer (King's College London) has also registered intellectual property on a buccal naloxone formulation, naming John Strang and colleagues, and he was earlier named in a patent registration by a pharmaceutical company regarding concentrated nasal naloxone spray. John Strang and colleagues have also worked as consultants for the United Nations Office on Drugs and Crime (UNODC), supporting them with a project introducing take-home naloxone to central Asian countries as well as contributing to local take-home naloxone schemes. For a fuller account, see John Strang's web-page at http://www.kcl.ac.uk/ioppn/depts/addictions/people/hod.aspx